

## **REMARKS / ARGUMENTS**

In complete response to the Office Action dated April 28, 2009, on the above identified application, reconsideration is respectfully requested. Claims 9 to 12 are pending in this application.

Applicants respectfully request continued examination of Claims 9 to 12 and allowance of all pending claims.

### **Claim Rejections Under 35 U.S.C. § 112:**

Claims 9 to 11 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9 and 10 have been amended as suggested by the Examiner, thereby rendering this rejection moot.

### **Claim Rejections Under 35 U.S.C. § 102:**

Claims 9 to 11 (and presumably 12) stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kunz et al '521. This rejection is respectfully traversed.

Claim 9 of the instant invention requires, among other things, that the air be raised to a high pressure and 'purified at the high pressure'. Kunz et al '521 describes the operating pressures of MP column 5 and LP column 14 as having operating pressures of 5.0 bar and 11.3 bar respectively (column 3, lines 17 – 20, based on machine translation). Thus, as required in claim 9 of the instant invention, the high pressure must be the 11.3 bar line.

However it is clearly stated in Kunz et al '521, in the citation made by the Examiner, that "over line 1 cleaned air under a pressure of 5.1 bar advanced (air compressors and air cleaning not represented) and in the remark example into altogether four component currents is divided" (sic). The pressure of the first air component (line 2) is not discussed. However, the second air component (branched off across line 6) is then compressed "in a cold compressor 7 to approximately 9.1 bar" (column 3, lines 33 – 34, based on machine translation). Thus the skilled artisan

would recognize that the high pressure air could not have been raised to pressure *then* purified at the high pressure, if it was not elevated to 9.1 bar until *after* having been purified

Claim 9 of the instant invention also requires, among other things, that the elevated pressure air stream, that has been subsequently cleaned, is then cooled in the exchange line, then split into two fractions, then sent to turbines. However, in Kunz et al '521, the air that goes to the 'first' turbine (element 12) is at a moderate pressure of 5.1 bar, cooled (never further compressed) and expended in said turbine to a pressure of 1.5 bar. (column 3, lines 23 – 45, based on machine translation). The air that goes into the 'second turbine (element 22) is separated *prior to cooling* (line 15), compressed, cooled, then expanded to moderate pressure of 5.1 bar. (column 3, lines 48 – 62, based on machine translation). Hence, the skilled artisan would find that neither of these turbines function as required by claim 9 of the instant application.

Claim 9 of the instant invention also requires, among other things, that the stream that leaves the cold compressor is 'at a temperature above an intake temperature of at least one of the turbines' which is not explicitly disclosed in Kunz et al. '521.

Hence, for at least these reasons, Kunz et al '521 fails to anticipate claim 9 of the present invention, and hence the rejection is improper. As claims 10 to 12 are dependent upon claim 9, the rejection is improper with respect to them as well.

#### **Claim Rejections Under 35 U.S.C. § 103:**

Claims 9 to 11 (and presumably 12) stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grenier et al '480 in view of Grenier '142. This rejection is respectfully traversed.

The Examiner notes that "Grenier (980) does not explicitly teach that the high pressure air is purified or a mixing column in which air from at least one of the

turbines is sent.” The Examiner then goes on to note that “providing a further column in which mixing may occur is also standard practice for the purpose of separating further components such as argon.”

“A mixing column is defined as a countercurrent contact column in which a more easily volatile gaseous fraction is sent opposite a more poorly volatile liquid.” (US Pat. No. 6,662,595; column 1, lines 46 – 49; grant date December 16, 2003). Hence, one skilled in the art at the time that the present invention was made, would recognize that a mixing column requires direct contact, among other things. The column identified in Grenier ‘142 as a ‘mixing column’ by the Examiner is in fact a more traditional ‘argon column’. It is clearly stated in the description that the rich liquid from the HP column (stream 35) enters “a condenser 34 in which rich liquid, expanded at 35 to near atmospheric pressure, is vaporized and then returned into the column 11 via a conduit 36.” (column 4, line 66 – column 5, line 2). Hence they are not in contact, and column 31 can not be a mixing column.

Hence the rejection as it pertains to claim 9 is improper. As claims 10 to 12 are dependent upon claim 9, the rejection is improper with respect to them as well.

Claims 9 to 11 (and presumably 12) stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mostello ‘598 in view of Grenier ‘142. This rejection is respectfully traversed.

The Examiner notes that “Mostello does not explicitly teach that the high pressure air is purified or a mixing column in which air from at least one of the turbines is sent.” As discussed above, Grenier ‘142 fails to remedy this deficiency. Hence the rejection as it pertains to claim 9 is improper. As claims 10 to 12 are dependent upon claim 9, the rejection is improper with respect to them as well

## CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the Examiner believe a telephone call would expedite the prosecution of the application, he is invited to call the undersigned attorney at the number listed below.

Respectfully submitted,

/Elwood L. Haynes/

Elwood L. Haynes

Registration No. 55,254

Date: **August 28, 2009**

Air Liquide  
2700 Post Oak Blvd., Suite 1800  
Houston, Texas 77056  
Phone: (713) 624-8952  
Fax: (713) 624-8950